

# Luis Francisco Zuniga

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## EDUCATION

### Franklin W. Olin College of Engineering

*Bachelor of Science - Engineering: Computing*

- **Relevant Coursework:** Software Systems, Computer Architecture, Databases, Data Science, Software Design, Quantitative Engineering Analysis, Fundamentals of Robotics, Fundamentals of Computer Science, Principles of Integrated Engineering

**Needham, MA**

*May 2025*

### South Texas College

*Associates of Science - Mathematics*

**McAllen, TX**

*May 2017*

## SKILLS

**Software Development:** Agile Development, Fault Tolerant Software Design, Version Control

**Languages:** Python (including PyTorch, TensorFlow, PANDAS), Rust, C/C++, Java, Verilog, Assembly, JavaScript, OCaml

**Software & Frameworks:** OpenCV, MATLAB, SIMULINK, Mathematica, Solidworks, Django, Flask, Blender, Unreal Engine, Adobe Creative Suite, Microsoft Office Suite

**Databases:** SQL, MongoDB

**Other:** 3D Scanning of objects and physical spaces. View Examples: [poly.cam/@Luis-F-Zuniga](https://poly.cam/@Luis-F-Zuniga)

## EXPERIENCE

### Waymaker Marine

*Technology/ Autonomy Developer*

**Remote**

*July 2025 - Present*

- Practice agile development to pursue hardware/ software goals and present progress during weekly stand-ups
- Source and test sensors using SDKs from companies using UART, I2C, and Wifi connections
- Render synthetic data using Blender/ Unreal Engine to fine-tune computer vision models
- Develop pathfinding and obstacle avoidance algorithms using Python

### McAllen ISD

*Migrant Education Program Tutor*

**McAllen, TX**

*March 2024 - June 2025*

- Maintained comprehensive and redundant records of student meetings and learning outcomes to be archived at regular intervals
- Determined appropriate, individualized teaching strategies for each student
- Provided technology support for Migrant Department Events (e.g. create 200 bingo cards that minimize the chance of two people winning at the same time)

### Excite the Mind LLC

*Mathnasium Instructor*

**Mission, TX**

*March 2022 - July 2023*

- Tutored student in K-12 and college level mathematics, including AP Statistics and Calculus 1 through 3 as well as SAT/ACT/TSI test prep
- Supported coworkers through organization of physical and online workspaces and material

### Olin College

*IPF Grant Intern*

**Needham, MA**

*May 2019 - December 2021*

- Designed & prototyped website layout to showcase Olin College Conductorless Orchestra performances and materials
- Trained ML TensorFlow algorithm to separate vocals and instrumentals from audio files
- Coordinated the acquisition of sound, video, and sheet music files to create archive of resources
- Project website: <https://pages.olin.edu/eco-summer2019>

*Music Program Assistant*

*September 2017 - December 2021*

- Recorded & edited music performances 6 times per academic year using professional equipment and software
- Examples of final product: [https://www.youtube.com/watch?v=3HTuCh\\_Sav8](https://www.youtube.com/watch?v=3HTuCh_Sav8)

## PROJECTS

### Independent Project

*Web-Connected, Event-Triggered Solenoid Project*

**Fayetteville, AR**

*April 2025 - September 2025*

- Collaborated in small team to design & code control system
- Provided technology support remotely to second team in Arkansas for control system v2 setup and troubleshooting

### Olin College

*Twilio-Olin Senior Capstone: Quick Deploy Chatbot*

**Needham, MA**

*August 2020 - May 2021*

- Conducted user-oriented research into areas of opportunity for disaster response organizations, including Red Cross and World Central Kitchen
- Leveraged Twilio QQuick Deploy, Studio, Autopilot, and Flex to create a one-click deployable, pre-trained chatbot designed based on observed user need
- Presented project findings, developed solution, and proposed next steps at college summit and Twilio developer blog
- Project Website: <https://www.olin.edu/research/2020-21/Twilio>

*Unmanned Underwater Vehicle*

*January 2020 - May 2020*

- Developed a UUV using sonar and depth camera for navigation and Sense-Think-Act control paradigm
- Leveraged MATLAB for depth camera point cloud processing and SIMULINK for sonar data processing

*Stimuli Response Robot*

*August 2018 - December 2018*

- Practiced agile development through iterative 2-week sprints, present progress regularly
- Designed light and sound sensor arrays to triangulate direction of light and sound sources
- Utilized Arduino Mega as system brain, designing code around the single-threaded limitations of the microcontroller
- Project Website: [http://pie.olin.edu/2018/The\\_Scaredy\\_Plants/](http://pie.olin.edu/2018/The_Scaredy_Plants/)

*Collision Avoidance Robot*

*January 2018 - May 2018*

- Utilized ROS to communicate between laptop, LIDAR, and motors
- Interpreted data from LIDAR in MATLAB by converting between polar and cartesian coordinates
- Performed reference frame rotations on robot system using global and local reference frames